CLAIMS

1. A pixel circuit, comprising:

a selection transistor having one end connected to a data line, and a control end receiving a selection signal;

a correction transistor having one end connected to the other end of the selection transistor, and a control end connected to a first power source at a predetermined voltage;

a driving transistor having a control end connected to the other end of the correction transistor, and one end connected to a second power source functioning as a current supply source;

a storage capacitor having one end connected to the control end of the driving transistor, and the other end connected to a pulse voltage line; and

an emissive element for emitting light caused by a current flowing through the driving transistor, wherein

the correction transistor is switched on and off states in a process of turning on the driving transistor by changing a voltage value of the pulse voltage line, thereby controlling a voltage of the control end of the driving transistor when it is turned on, and

the driving transistor and the correction transistor are formed adjacent to each other.

2. A pixel circuit according to claim 1, wherein

a data voltage for turning on the correction transistor is supplied to the data line while the selection transistor is

ON, a voltage corresponding to the data voltage is stored at the control end of the driving transistor, the selection transistor is turned off thereafter, and the voltage of the control end of the driving transistor is shifted by changing the voltage of the pulse voltage line in this state, thereby turning off the correction transistor and turning on the driving transistor to cause a current in accordance with the data voltage to flow into the driving transistor.

3. A pixel circuit according to claim 1, wherein

the first power source and the second power source are the same power source.

4. A pixel circuit according to claim 1, wherein

the correction transistor and the driving transistor are p-channel transistors, and the pulse voltage line changes from a high level to a low level after the selection transistor is turned off.

5. A pixel circuit according to claim 1, wherein

active layers of the correction transistor and the driving transistor are formed of polycrystalline semiconductor obtained by polycrystallization laser annealing, and

a channel length direction of the correction transistor and a channel length direction of the driving transistor are disposed in parallel to a scanning direction of a line-shaped pulse laser irradiated upon the polycrystallization laser annealing, and at least part of both channel regions of the

correction transistor and the driving transistor are located on the same line extending in a direction crossing the scanning direction of the pulse laser.

6. A pixel circuit according to claim 1, wherein the data line and the power source line extend in a vertical scanning direction, and the correction transistor is formed between the data line and the power source line.

7. A pixel circuit according to claim 6, wherein the driving transistor is formed on a side opposite to the correction transistor with the power source line located in between.

8. A circuit according to claim 6, wherein a data voltage for turning on the correction transistor is supplied to the data line while the selection transistor is ON, a voltage corresponding to the data voltage is stored at the control end of the driving transistor, the selection transistor is turned off thereafter, and the voltage of the control end of the driving transistor is shifted by changing the voltage of the pulse voltage line in this state, thereby turning off the correction transistor and turning on the driving transistor to cause a current in accordance with the data voltage to flow into the driving transistor.

9. A pixel circuit according to claim 6, wherein the first power source and the second power source are

the same power source.

10. A pixel circuit according to claim 6, wherein the correction transistor and the driving transistor are p-channel transistors, and the pulse voltage line changes from a high level to a low level after the selection transistor is turned off.

11. A pixel circuit according to claim 6, wherein active layers of the correction transistor and the driving transistor are formed of polycrystalline semiconductor obtained by polycrystallization laser annealing, and a channel length direction of the correction transistor and a channel length direction of the driving transistor are disposed in parallel to a scanning direction of a line-shaped pulse laser irradiated upon the polycrystallization laser annealing, and at least part of both channel regions of the correction transistor and the driving transistor are located on the same line extending in a direction crossing the scanning direction of the pulse laser.

12. A display device including a plurality of pixels arranged in a matrix, each pixel comprising:

a display element operating in accordance with supplied power;

a selection transistor having a first conductive region connected to a data line, and a control end receiving a selection signal;

a driving transistor having a first conductive region connected to a power source line for supplying power to the display element;

a correction transistor having a control end connected to a first power source at a predetermined voltage, a first conductive region connected to a second conductive region of the selection transistor, and a second conducive region connected to a control end of the driving transistor; and

a storage capacitor having a first electrode connected to the control end of the driving transistor and the second conductive region of the correction transistor, and a second electrode connected to a pulse voltage line; wherein

in accordance with an operation threshold thereof, the correction transistor

controls, in accordance with a change in a voltage of the control end of the driving transistor in response to a change in a voltage of the pulse voltage line, the voltage of the control end when the driving transistor turns on,

the correction transistor and the driving transistor are formed as transistors of the same conductivity type, and

at least a channel region of each of the correction transistor and the driving transistor is formed of a semiconductor layer polycrystallized through laser annealing, and the channel regions thereof are disposed in close proximity to each other.

13. A display device according to claim 12, wherein a channel length direction of the correction transistor

and a channel length direction of the driving transistor are disposed in parallel to a scanning direction of a line-shaped pulse laser irradiated upon the polycrystallization laser annealing, and at least part of both channel regions of the correction transistor and the driving transistor are located on the same line extending in a direction perpendicular to the scanning direction of the pulse laser.

14. A display device according to claim 12, wherein the channel region of the correction transistor has portions differing in channel width in the channel length direction thereof.

15. A display device according to claim 12, wherein the correction transistor includes an active layer formed between the data line and the power source line to extend partially underlying at least one of these lines.

16. A display device including a plurality of pixels arranged in a matrix, each pixel comprising:

a display element operating in accordance with supplied power;

a selection transistor having a first conductive region connected to a data line, and a control end receiving a selection signal;

a driving transistor having a first conductive region connected to a power source line for supplying power to the display element;

a correction transistor having a control end connected to a first power source at a predetermined voltage, a first conductive region connected to a second conductive region of the selection transistor, and a second conducive region connected to a control end of the driving transistor; and

a storage capacitor having a first electrode connected to the control end of the driving transistor and the second conductive region of the correction transistor, and a second electrode connected to a pulse voltage line; wherein

in accordance with an operation threshold thereof, the correction transistor

controls, in accordance with a change in a voltage of the control end of the driving transistor in response to a change in a voltage of the pulse voltage line, the voltage of the control end when the driving transistor turns on,

the correction transistor and the driving transistor are formed as transistors of the same conductivity type, and

at least part of an active layer of the correction transistor is formed below the power source line with an insulating layer disposed in between.

17. A display device according to claim 16, wherein

the first power source is also used as the power source line, and

the control end of the correction transistor connected to the power source line is formed between the active layer of the correction transistor and a layer of the power source line.

18. A display device according to claim 16, wherein the channel region of the correction transistor has portions differing in channel width in the channel length direction thereof.

19. A display device according to claim 16, wherein the correction transistor includes an active layer formed between the data line and the power source line to extend partially underlying at least one of these lines.